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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/767,037 | 01/28/2004 | Charles W. Finkl | FINKL162CIPD2 | 4800 |

7590 10/12/2005

James G. Staples
A. Finkl & Sons Co.
2011 North Southport Avenue
Chicago, IL 60614

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| EXAMINER |
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KASTLER, SCOTT R

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

1742

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|--------------------------|-------------------------------|------------------------------|--|
| Interview Summary | Application No. 10/767,037 | Applicant(s) FINKL ET AL. | |
| | Examiner Scott Kastler | Art Unit 1742 | |

All participants (applicant, applicant's representative, PTO personnel):

(1) Scott Kastler. (3) _____.

(2) Mr Staples. (4) _____.

Date of Interview: 06 October 2005.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☒ Yes e) ☐ No.

If Yes, brief description: a copy of proposed amendments to the claims (attached).

Claim(s) discussed: 1.

Identification of prior art discussed: Nishikawa, Butler et al, Basinger and Roth.

Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Applicants explained that the even and parallel arrangement of the heating elements of the instant claims result in improved performance when heat treating steel die blocks. The examiner explained that such results need to be supported by showings in proper affidavit or declarative form.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.


SCOTT KASTLER
PRIMARY EXAMINER

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

A

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

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IN THE U.S. PATENT AND TRADEMARK OFFICE

| | | | |
|---------------------|---------------------------|---|---------------------------------------|
| Applicants: | Charles W. Finkl et al |) | |
| | |) | |
| Serial No.: | 10/767,037 |) | Attention: |
| | |) | |
| Filing Date: | January 28, 2004 |) | Primary Examiner Scott Kastler |
| | |) | |
| Title: | Apparatus for Softening |) | Art Unit 1742 |
| | a Selected Portion of |) | |
| | a Steel Object by Heating |) | |

**DISCUSSION DOCUMENT
FOR INFORMAL DISCUSSION WITH EXAMINER
PRIOR TO OFFICIAL RESPONSE
TO AUGUST 24 OFFICE ACTION**

Dear Examiner Kastler:

In an effort to bring pendency to an early conclusion we forward herewith what is, in effect, a proposal upon which an official amendment may be submitted following discussion with you and any possible revisions which are a result therefrom.

We propose to:

1. File claim 1 in its proposed amendment-ready condition as shown on the attachment, subject to conference revisions.
2. Delete claims 2, 3 and 4.
3. Make remaining claims 7, 8 and 9 dependant on claim 10 after revising claim 10 to conform to claim 1 except for the specified limitation to a die block.

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To expedite consideration we also enclose:

4. Reference Analysis Chart entitled "Is Element Found in: (and comment if appropriate)" which is based on our newly proposed wording of claim 1.

We now summarize our contentions so the Examiner will have an appreciation of our position before a later held telephonic discussion with a view to using the time in the telephonic discussion most efficiently.

Neither of the base references Nishikawa and Basinger show an apparatus for softening a workpiece part way through; they both show apparatus for through heating. Butler et al and Roth do not supply this important teaching (see chart Element a.).

Neither of the base references Nishikawa and Basinger show an apparatus having parallel runs of heating elements substantially equally distantly spaced from one another and laying in a common flat plane. Butler et al and Roth do not supply this important teaching (see chart Element e.).

Neither of the base references Nishikawa and Basinger show an apparatus in which the individual runs of heating elements are substantially equidistantly spaced from the flat surface area of the workpiece. Butler et al and Roth do not supply this important teaching (see chart Element g.).

Neither of the base references Nishikawa and Basinger show apparatus for differential (i.e.: part-way-through) heating. Basinger's element 34 is only capable of preventing

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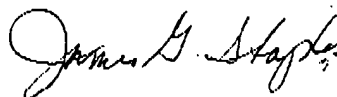
overheating when something has gone awry, and not to make possible part-way-through heating since the entire purpose of the patent is to braze stainless steel joints which comprises first liquefying and then solidifying all abutting joint surfaces. Butler et al and Roth do not supply this important teaching (see chart Element h.).

We submit it is not necessary to discuss compound rejections of A in view of B, or B and C, since none of the references show any one of the four elements described briefly above.

We will of course, in the official submission, conform the specification to the claim language without adding new matter.

At this writing we understand an appropriate and acceptable procedure following a very brief telephone conversation with the Examiner is to send this discussion proposal, with, following an interval in which the Examiner is enabled to review this as his schedule permits, a somewhat longer telephone discussion in which the Examiner's specific concerns can be discussed in a more targeted manner.

Respectfully submitted,



James G. Staples, Esq.
Reg. No. 19,013

Additional enclosure:

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Additional enclosure:

Claim 1 as it appears in
REFERENCE ANALYSIS
CHART with revisions over
version filed 23 June 2005

A. Finkl & Sons Co.
2011 North Southport Avenue
Chicago, IL 60614
(773) 975-2235

REFERENCE ANALYSIS CHART

| Is Element found in: (and comment, if appropriate) | | | | | |
|---|--|--|---|---|---|
| <u>Elements of Claim 1</u> | | <u>Nishikawa</u> | <u>Butler et al</u> | <u>Basinger</u> | <u>Roth</u> |
| a. | Apparatus for reducing cracking at the body-shank junctions of a hardened die block by softening to a vertical depth of about 2 to 2.5 inches, the entire shank portion only of the die block, the shank portion of said die block having a flat surface, said apparatus including, in combination | <p>no</p> <p>1. no apparatus disclosed</p> <p>2. apparatus heats all the way through, not part way through</p> <p>3. no apparatus to harden to a depth of 2.5 in.</p> | <p>no</p> <p>1. no apparatus for treating a flat surface</p> <p>2. apparatus heats all the way through, not part way through</p> | <p>no</p> <p>1. no apparatus for treating a flat surface</p> <p>2. apparatus heats all the way through, not part way through</p> | <p>no</p> <p>1. no apparatus for treating hardened die block; only treats powder metallurgy pieces</p> <p>2. apparatus heats all the way through, not part way through</p> |
| b. | support structure for maintaining a die block consisting of a shank portion having a flat surface and an integral body portion stationary during processing, | <p>no</p> <p>no support structure of any kind mentioned</p> | <p>no</p> <p>no structure for supporting a die block</p> | <p>no and yes</p> <p>no apparatus to treat objects having a flat surface but object is maintained stationary</p> | <p>yes</p> |

| <u>Elements of Claim 1</u> | | <u>Nishikawa</u> | <u>Butler et al</u> | <u>Basinger</u> | <u>Roth</u> |
|----------------------------|--|---|---|--|--|
| c. | an electric heat source in close heat transference proximity to the entire flat surface of the shank portion of the die block. | no graphite powder (col. 2, line 64) and mirror or condenser (col. 4, line 52) and mask plate (col. 4, line 57) and cooling jigs (col. 4, line 68) are interposed between heat source and workpiece and preclude close heat transference proximity | no and yes no apparatus for treating flat surface of shank portion of a die block present, but close heat proximity is present | no and yes no apparatus arranged to treat a flat surface, but close heat proximity is present | no and yes apparatus not arranged to treat only shank portion of a die block present, but close heat proximity is present |
| d. | said electric heat source being composed of parallel runs of heating elements. | no no details of heat source disclosed | yes | yes | no no specific apparatus disclosed |

| <u>Elements of Claim 1</u> | | <u>Nishikawa</u> | <u>Butler et al</u> | <u>Basinger</u> | <u>Roth</u> |
|----------------------------|--|---|--|--|--|
| e. | all portions of adjacent parallel runs of said heating elements being substantially equally distantly spaced from one another in a common flat plane. | no no details of heat source disclosed | no heating wires 52 do not lie in common flat plane | no heating elements not in a flat plane | no no disclosure of any arrangement |
| f. | all portions of said adjacent parallel runs of said heating elements being substantially equidistantly spaced from the entire flat surface area of the shank portion of the die block which is in close heat transference proximity thereto, | no 1. No details of heat source disclosed 2. only about 1/3 of surface is treated, not "entire flat surface area" | no no treatment of a flat surface area | no 1. all portions of heating elements not equidistantly spaced (see Figure 2) 2. heating elements not in flat plane | no no disclosure of any arrangement |

| <u>Elements of Claim 1</u> | | <u>Nishikawa</u> | <u>Butler et al</u> | <u>Basinger</u> | <u>Roth</u> |
|----------------------------|--|---|--|--|-------------|
| g. | said electric heat source being positioned to transfer heat from the electric heat source uninterruptedly directly on to the entire flat surface area of the shank portion of the die block, | no layer of graphite powder always interposed between workpiece and heat source; no uninterrupted direct heat transference | no and yes heat transfer uninterrupted, but heat not directed onto flat surface | no and yes heating elements arranged to transfer heat uninterruptedly but not onto a flat surface | yes |

| <u>Elements of Claim 1</u> | | <u>Nishikawa</u> | <u>Butler et al</u> | <u>Basinger</u> | <u>Roth</u> |
|----------------------------|---|--|--|--|--|
| h. | means for controlling the amount of heat energy which impinges onto the entire flat surface area of the shank portion to an amount which softens only the shank portion of the die block, said shank portion being softened to a depth of about 2 - 2-1/2 inches and to a hardness level lower than the hardness level of the body portion of the die block which is underneath and integral with the shank portion, to effect differential hardening between the shank and body portions | no 1. no control means disclosed 2. no means for differential (i.e.: partway through) heating disclosed, only completely through heating | no 1. no control means 2. no means for differential (i.e.: partway through) heating disclosed, only completely through heating to ensure stress transformation on internal surface | no 1. heating elements 20 not arranged to impinge on flat surface. 2. element 34 not arranged to perform differential (i.e.: part way through) heating | no 1. no control means 2. apparatus not arranged for differential (i.e.: partway through) heating; only completely through heating |

| <u>Elements of Claim 1</u> | | <u>Nishikawa</u> | <u>Butler et al</u> | <u>Basinger</u> | <u>Roth</u> |
|----------------------------|--|---|---------------------|-----------------|-------------|
| | of the die block whereby subsequent cracking at the shank-body junction of the die block is substantially eliminated, and | | | | |
| i. | structural heat blocking members surrounding the electric heat source at all locations except where the flat surface area of the shank portion of the die block is located in unobstructed facing relationship to the heating elements of the heat source. | no no heat source confining structure disclosed | yes | yes | yes |

Proposed Amendment
to Claim 1

1. (currently amended) Apparatus for reducing cracking at the body-shank junctions of a hardened die block, by softening to a vertical depth of about 2 to 2.5 inches, the entire shank portion only of the die block, the shank portion of said die block having a flat surface, said apparatus including, in combination

support structure for maintaining a die block ~~having a body portion and~~ consisting of a shank portion ~~having a flat surface and an integral body position~~ stationary during processing,

an electric heat source in close heat transference proximity to the entire flat surface of the shank portion of the die block, ~~said flat surface being uncovered.~~

said electric heat source being composed of parallel runs of heating elements,

all portions of adjacent parallel runs of said heating elements being substantially equally distantly spaced from one another in a common flat plane,
~~each a run of~~
~~all portions of said adjacent parallel runs of said heating elements being substantially~~
~~equidistantly spaced from the entire flat surface area of the shank portion of the die block which is~~
in close heat transference proximity thereto.

said electric heat source being positioned to transfer impinge heat from the electric heat source uninterruptedly directly on to the entire uncovered flat surface area of the shank portion of the die block.

control means for controlling which limit the amount of heat energy which impinges onto the entire uncovered flat surface area of the shank portion to an amount which softens only the shank portion of the die block, said shank portion being softened to a depth of about 2 - 2-1/2

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inches and to a hardness level lower than the hardness level of the body portion of the die block which is underneath and integral with the shank portion, to effect differential hardening between the shank and body portions of the steel die block whereby subsequent cracking at the shank-body junction of the steel die block is substantially eliminated, and

structural heat blocking members surrounding the electric heat source at all locations except where the flat surface area of the shank portion of the die block is located in unobstructed facing relationship to the heating elements of the heat source.